Claim Amendments

Claims 15 and 18 are amended.
Claims 29 and 30 are added.

1 (cancelled).

2 (previously presented). The system of claim 17, wherein said drying portions provide substantially complete laterally extending coverage of the sheet, and wherein said first drying portion provides a substantially different range of laterally extending coverage of the sheet than said second drying portion.

3 (cancelled).

4 (previously presented). The system of claim 2, wherein a quantity of the ink is defined by a spatially varying distribution, and wherein said controller is adapted, based on said distribution, to select one of said first and second plenums to receive more of the pressurized gas than the other of said first and second plenums.

5 (previously presented). The system of claim 17, wherein a quantity of the ink is defined by a spatially varying distribution, and wherein said controller is adapted, based on said distribution, to select one of said first and second plenums to receive more of the pressurized gas than the other of said first and second plenums.

6 (previously presented). The system of claim 17, wherein said first and second plenums are spaced substantially apart from one another in a direction of travel of the sheet by a predetermined distance, wherein said first and second drying portions are each substantially laterally co-extensive, wherein said controller is adapted to select one of said first and second plenums to receive a first predetermined amount of the pressurized gas at a first time, and to select the other of said first and second plenums to receive a second predetermined amount of the pressurized gas at a second time, wherein said

second amount of the pressurized gas is predetermined based on said first amount, and wherein the difference between said first time and said second time is substantially equal to said distance divided by the speed of travel of the sheet.

7 (cancelled).

8 (original). A method for drying ink in a high speed printing system, the ink being deposited on a sheet of material traveling in a predetermined direction, the system being coupled to a source of pressurized gas and comprising the steps of:

providing a first plenum disposed so as to extend over the sheet;

providing a second plenum disposed so as to extend over the sheet, wherein said plenums each include an associated plurality of orifices spaced apart from one another so as to define respective drying portions thereof, wherein said plenums are spaced substantially apart from one another in the direction of travel of the sheet a predetermined distance, and wherein the drying portions of said plenums are each substantially laterally co-extensive;

selecting one of said two plenums to receive a first predetermined amount of the pressurized gas at a first time; and

selecting the other of said two plenums to receive a second predetermined amount of the pressurized gas at a second time, wherein said second amount of the pressurized gas is predetermined based on said first amount, and wherein the difference between said first time and said second time is substantially equal to said distance divided by the speed of travel of the sheet.

9 (cancelled).

10 (cancelled).

11 (cancelled).

12 (cancelled).

13 (cancelled).

14 (cancelled).

15 (currently amended). An ink drying system for high speed printing with liquid ink on a traveling sheet of material, the system being coupled to a source of pressurized gas and comprising:

a first plenum disposed so as to extend over the sheet and define a first drying portion of said first plenum for directing the gas through said first plenum onto the sheet for drying the ink;

a first fluid flow valve for varying the flow rate of the gas through said first plenum for varying the drying energy required for drying said ink; and

a controller for receiving first information for determining a drying energy required of said first drying portion for drying a portion of said ink deposited on the sheet and automatically controlling said first fluid flow valve and varying said flow rate of said gas and therefore said drying energy in response to said first information, for causing said drying of said portion of said ink.

16 (previously presented). The ink drying system of claim 15, wherein said controller is adapted to control said first fluid valve in response to changes in the drying energy required of said first drying portion for drying different lines of printing.

17 (previously presented). The ink drying system of claim 15, further comprising at least a second plenum disposed so as to extend over the sheet and define a second drying portion of said second plenum for directing the gas through said second plenum onto the sheet, a second fluid flow valve for varying the flow rate of the gas through said second plenum, wherein said controller is adapted to receive second information for determining the drying energy required of said second drying portion and to automatically control said second fluid flow valve in response to said second information, for drying ink deposited on the sheet

18 (currently amended). A method for high speed printing with liquid ink on a traveling sheet of material, comprising the steps of:

providing a first plenum disposed so as to extend over the sheet and define a first drying portion of said first plenum for directing pressurized gas through said first plenum onto the sheet for drying the ink;

receiving first information for determining a drying energy and a flow rate of the gas required of said first drying portion for drying a portion of said ink deposited on the sheet; and

automatically controlling the flow rate of the gas through said first plenum and therefore said drying energy in response to said first information, for causing said drying of said portion of said ink.

19 (previously presented). The method of claim 18, further comprising providing at least a second plenum disposed so as to extend over the sheet and define a second drying portion of said second plenum for directing the gas through said second plenum onto the sheet, receiving second information for determining the drying energy required of said second drying portion, and automatically controlling the flow rate of the gas through said second plenum in response to said second information, for drying ink deposited on the sheet.

20 (previously presented). The method of claim 19, wherein said drying portions provide substantially complete laterally extending coverage of the sheet, and wherein said first drying portion provides a substantially different range of laterally extending coverage of the sheet than said second drying portion.

21 (previously presented). The method of claim 20, wherein a quantity of the ink is defined by a spatially varying distribution, and wherein said controlling, based on said distribution, comprises selecting one of said first and second plenums to receive more of the pressurized gas than the other of said first and second plenums.

22 (previously presented). The method of claim 19, wherein a quantity of the ink is defined by a spatially varying distribution, and wherein said controlling comprises selecting, based on said distribution, one of said first and second plenums to receive more of the pressurized gas than the other of said first and second plenums.

23 (previously presented). The method of claim 19, wherein said first and second plenums are spaced substantially apart from one another in a direction of travel of the sheet by a predetermined distance, and wherein said first and second drying portions are each substantially laterally co-extensive, wherein said controlling comprises selecting one of said first and second plenums to receive a first predetermined amount of the pressurized gas at a first time, and selecting the other of said first and second plenums to receive a second predetermined amount of the pressurized gas at a second time, wherein said second amount of the pressurized gas is predetermined based on said first amount, and wherein the difference between said first time and said second time is substantially equal to said distance divided by the speed of travel of the sheet.

24 (previously presented). The method of claim 18, further comprising controlling said first fluid valve in response to changes in the drying energy required of said first drying portion for drying different lines of printing.

25 (previously presented). The ink drying system of claim 15, further comprising at least one ink jet printhead for depositing the ink, wherein said first information includes the amount of ink deposited by said at least one ink jet printhead.

26 (previously presented). The ink drying system of claim 4, further comprising a plurality of ink jet printheads for depositing the ink, wherein said first information includes the amount of ink deposited by one of said plurality of ink jet printheads and wherein said second information includes the amount of ink deposited by another of said plurality of ink jet printheads.

27 (previously presented). The method of claim 18, further comprising providing at least one ink jet printhead for depositing the ink, wherein said first information includes the amount of ink deposited by said at least one ink jet printhead.

28 (previously presented). The method of claim 21, further comprising providing a plurality of ink jet printheads for depositing the ink, wherein said first information includes the amount of ink deposited by one of said plurality of ink jet printheads and wherein said second information includes the amount of ink deposited by another of said plurality of ink jet printheads.

29 (new). The ink drying system of claim 15, wherein said first information comprises substantially instantaneous flow volume data for the liquid ink.

30. (new) The method of claim 18, wherein said first information comprises substantially instantaneous flow volume data for the liquid ink.